18. (Twice Amended) A method for injecting a medicament into a plant with a hand-held injector comprising:

(a) providing a medicament for the plant;

(b) providing a compressed gas for injecting the medicament into the plant; and

(c) with the hand-held injector, injecting, by motion of at least one piston actuated by at least a portion of the compressed gas, medicament through a surface of the plant to inject said medicament into the plant, said at least one piston injecting the medicament by pushing the same through the surface of the plant.

21. (Twice Amended) An apparatus for injecting a fluid into a woody plant, the apparatus comprising:

(a) a fluid reservoir containing a fluid;

(b) a gas reservoir containing a gas;

(c) a needle having a proximal end and a distal end, comprising:

(i) an inner conduit;

(ii) a sealed tip terminating in a point at the distal end;

(iii) an outer surface; and

(iv) at least one aperture connecting the inner conduit and the outer surface and proximate to the point at said distal end; and

(d) a hand-held injector connectable to the fluid reservoir and the gas reservoir, wherein the hand-held injector can push at least a portion of the fluid from the fluid reservoir with at least one piston actuated by at least a portion of the gas from the gas reservoir, through the inner conduit of the needle and out of the at least one aperture to inject the fluid into the woody plant.

REMARKS

Claims 1-33 are presently pending.

Rejection under 35 U.S.C. § 103(a)

The Examiner rejected Claims 1-18 and 21-33 under 35 U.S.C. § 103(a) as being unpatentable over Shibata (JP406169643A) in view of Schoonman (U.S. Patent 3,295,254).

Independent Claims 1, 18, and 21 have been amended herein to distinguish over the cited references. Support for these amendments is found at least at page 2, line 21 through page 3, line 8; page 3, line 27 through page 4, line 20; page 8, lines 13-18; page 11, line 7 through page 13, line 15; and FIGS. 5 and 6 of the originally filed application. More particularly, the claims have been amended to recite that the hand-held injector of the present application can push the injectable fluid with at least one piston which is actuated by the gas from the gas reservoir. That is, the piston of the present application pushes or propels injectable fluid through the needle.

In the embodiment of Figure 5 of the present application, the compressed gas in tank 90 is used to actuate power piston 80 to the right to impinge upon working piston 82 which drives the fluid that is in a fluid chamber adjacent to the injection needle 86 therethrough to inject the fluid into the plant. In the embodiment of Figure 6, the compressed gas flows through the inlet port 101 and actuates the power piston 125 to the right to thus move injector rod 130 to force the fluid that is in the chamber in front of the injector rod through the injection needle 150 and thus into the plant.

These limitations are not found in Shibata, which is generally directed to a liquid injector for a tree that includes a gas container 2, a pressure-reducing valve mechanism 10, a liquid container 20, and an injection pipe 23. Piston 13 forms part of the pressure-reducing valve mechanism 10 that takes the gas G under pressure and steps down the pressure to a nearly constant pressure and injects the gas into the liquid container 20, which aids in injection of the liquid L. Piston 13 does not push the fluid into the tree.

Thus, Shibata does not disclose a piston that pushes fluid into a plant as recited by the independent claims of the present application. Schoonman fails to remedy the deficiencies of

Shibata. Dependent Claims 2-17, 19-20, and 22-33 thus contain the patentable subject matter of the respective independent claims.

Accordingly, this rejection is believed to be overcome.

The Examiner rejected Claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Shibata as modified by Schoonman as applied to Claim 18 above, and further in view of Hendrixson *et al.* (U.S. Patent 4,103,456).

It is respectfully submitted that Hendrixson *et al.* fail to teach or suggest the use of at least one piston that is actuated by compressed gas to inject fluid into the plant. The aerosol or pressurized can 34 of Hendrixson *et al.* is used to inject the fluid through passageways 27 when valve 26 is opened.

The Examiner rejected Claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Shibata as modified by Schoonman as applied to Claim 18 above, and further in view of Mazur *et al.* (U.S. Patent 4,908,983).

It is respectfully submitted that the combination of Shibata, Schoonman, and Mazur *et al.* fail to teach or suggest all the limitations of amended base Claim 18, from which Claim 20 directly depends. More particularly, Claim 18 has been amended to recite a hand-held injector similar to Claims 1 and 21. Embodiments of the injectors of the present invention are designed to be held by the operator in contrast to the injectors of the cited references (see, *e.g.*, page 11, line 7 through page 13, line 15 and FIGS. 5 and 6 of the originally filed application).

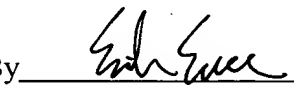
Accordingly, the rejection is believed to be overcome.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner believes that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By 

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MARKED UP VERSION OF AMENDMENTS

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Twice Amended) A method for injecting a fluid into a woody plant, the method comprising:

(a) providing:

(i) a fluid reservoir containing a fluid;

(ii) a gas reservoir containing a gas;

(iii) a needle having a proximal end and a distal end, comprising:

(1) an inner conduit;

(2) a sealed tip terminating in a point at the distal end;

(3) an outer surface; and

(4) at least one aperture connecting the inner conduit and the outer surface and proximate to the point at said distal end; and

(iv) [an] a hand-held injector connectable to the fluid reservoir and the gas reservoir, wherein the hand-held injector can [direct] push at least a portion of the fluid from the fluid reservoir with at least one piston actuated by at least a portion of the gas from the gas reservoir, through the inner conduit of the needle and out of the at least one aperture;

(b) inserting the needle into the woody plant; and

(c) injecting, via the hand-held injector, at least a portion of the fluid from the fluid reservoir using at least a portion of the gas from the gas reservoir, through the inner conduit of the needle and out of the at least one aperture and into the woody plant; thereby injecting the fluid into the woody plant.

18. (Twice Amended) A method for injecting a medicament into a plant with a hand-held injector comprising:

(a) providing a medicament for the plant;

(b) providing a compressed gas for injecting the medicament into the plant; and

(c) with the hand-held injector, injecting, by motion of at least one piston actuated by at least a portion of the compressed gas, medicament through a surface of the plant to inject said medicament into the plant, said at least one piston injecting the medicament by pushing the same through the surface of the plant.

21. (Twice Amended) An apparatus for injecting a fluid into a woody plant, the apparatus comprising:

(a) a fluid reservoir containing a fluid;

(b) a gas reservoir containing a gas;

(c) a needle having a proximal end and a distal end, comprising:

(i) an inner conduit;

(ii) a sealed tip terminating in a point at the distal end;

(iii) an outer surface; and

(iv) at least one aperture connecting the inner conduit and the outer surface and proximate to the point at said distal end; and

([c] d) [an] a hand-held injector connectable to the fluid reservoir and the gas reservoir, wherein the hand-held injector can [direct] push at least a portion of the fluid from the fluid reservoir with at least one piston actuated by at least a portion of the gas from the gas reservoir, through the inner conduit of the needle and out of the at least one aperture to inject the fluid into the woody plant.